ABSTRACT OF THE DISCLOSURE

A differential interference optical system includes an illumination source, a first polarizing element for converting a ray of light emitted from the illumination source into linearly polarized light, a first polarizing member for separating the linearly polarized light converted by the first polarizing element into two linearly polarized components which vibrate perpendicular to each other and travel at a slight separation angle, a lens system for illuminating and observing an object to be observed, a second polarizing member for combining the two linearly polarized components on the same path after passing through the lens system, and a second polarizing element for converting a ray of light combined by the second polarizing member into linearly polarized light. At least one of the first polarizing member and the second polarizing member possesses the position of localized fringes at which the two linearly polarized components intersect with each other, and a distance from at least one polarizing member to the position of localized fringes is variable.